UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HITOSHI SEKINE and JUNICHI OTA

Appeal 2006-2951
Application 09/782,988
Technology Center 2100

Decided: March 21, 2007

Before TERRY J. OWENS, ANITA PELLMAN GROSS, and STUART S. LEVY, *Administrative Patent Judges*.

GROSS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Sekine and Ota (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1 through 4, 6 through 14, 16 through 24, and 26 through 31, which are all of the claims pending in this application.

Appellants' invention relates to a method of storing and managing digital data such that the data is retrievable but not alterable. Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A data storage apparatus comprising:

an interface configured to receive digital data; and

a data processor communicatively coupled to the interface and being configured to

automatically receive digital data from the interface and cause the digital data to be stored to a write-once-read-many (WORM) storage device,

process a search query against the digital data stored on the WORM storage device, and

in response to processing the search query against the digital data stored on the WORM storage device, generate data that identifies data stored on the WORM storage device that satisfies the query.

The prior art references of record relied upon by the Examiner in rejecting the appealed claims are:

Ramsay	US 5,502,576	Mar. 26, 1996
Kern	US 6,202,124 B1	Mar. 13, 2001 (filed May 05, 1998)

Thomas J. Thiel, *Integrated CD-ROM and WORM Optical Disk Systems on the Navy's Paperless Ship*, 5 CD-ROM Professional 3, 17-26 (May 1992).

Claims 1 through 3, 8 through 13, 18 through 23, and 28 through 31 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ramsay in view of Thiel.

Claims 4, 6, 7, 14, 16, 17, 24, 26, and 27 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ramsay in view of Thiel and Kern.

We refer to the Examiner's Answer (mailed January 18, 2006) for the Examiner's complete reasoning and to Appellants' Brief (filed June 13, 2005) and Reply Brief (filed March 23, 2006) for Appellants' counterarguments.

SUMMARY OF DECISION

As a consequence of our review, the obviousness rejections of claims 1 through 4, 6 through 14, 16 through 24, and 26 through 31 will be reversed.

OPINION

The Examiner (Answer 3-5) rejects the claims over Ramsay and Thiel. The Examiner asserts (Answer 4) that Thiel teaches processing a search query against the digital data stored on the WORM storage device and "generating data that identifies data stored on the WORM storage device that satisfies the search query."

Appellants contend (Br. 4-7 and Reply 4-6) that neither Ramsay nor Thiel discloses the limitation "generate data that identifies data stored on the WORM storage device that satisfies the search query," as recited in claims 1 and 22, and as similarly recited in claim 12. Specifically, Appellants contend (Br. 6 and Reply 4-6) that although Thiel discloses generating the data that is stored on the WORM storage device that satisfies the search query, Thiel does not disclose generating data that identifies the stored data.

The issue is whether the combination of Ramsay and Thiel suggests generating data identifying the stored data that satisfies a search query. The conclusion is that the combination does not teach or suggest the limitation in question.

Ramsay discloses (col. 16, l. 64-col. 17, l. 1) that "storage and retrieval of electronic images at high rate . . . requires indexing and selective acquisition of stored images on a medium such as an [sic] laser or optical disc." Ramsay further discloses (col. 30, ll. 55-62) that a database records an accession number, index, or address for the initial frame of a stored electronic document "to permit cataloging and selective retrieval of any document stored on that medium." Thus, Ramsay suggests recording identifying data for the stored data, but retrieving only the stored data itself.

Thiel, likewise, discloses (p. 21) an indexing and retrieval database which contains descriptive information about each document on an optical disk. The database is searched to locate and retrieve the document. In other words, Thiel searches the identifying information to generate the stored data in response to a search query. However, Thiel fails to teach or suggest generating the identifying data.[1]

Since the combination of the two references lacks a limitation that appears in each of the three independent claims, the Examiner has failed to

[1] It should be noted that identifying information that is part of the document (such as a title) will always be generated as part of the document itself whenever the document is generated. Thus, reading the limitation of generating identifying data as including the identifying information that appears on the document itself would effectively read the phrase "data that identifies" out of the claim. Therefore, the phrase has been interpreted as referring to data separate from the stored data itself.

establish a prima facie case of obviousness. Accordingly, the obviousness rejection of claims 1, 12, and 22, and their dependents, claims 2, 3, 8 through 11, 13, 18 through 21, 23, and 28 through 31, cannot be sustained.

The Examiner (Answer 6) adds Kern to the primary combination for the additional limitations of claims 4, 6, 7, 14, 16, 17, 24, 26, and 27. Appellants contend (Br. 8-9) that Kern fails to remedy the shortcomings of Ramsay and Thiel noted *supra*. In other words, Appellants contend that Kern does not teach or suggest generating, in response to a search query, data that identifies stored data that satisfies the query. The issue, therefore, is whether Kern cures the deficiency of the primary combination.

Kern (col. 7, ll. 8-13) discloses "writing metadata such as header information of a known format to the tape storage device . . . [or] metadata such as a volume table of contents ("VTOC") to the disk drive, and also updating the catalog." Kern further discloses (col. 7, ll. 19-23) generating format information "using the catalog **212** and/or metadata **214**." However, Kern does not teach or suggest generating the identifying information in response to a search query. Therefore, Kern fails to cure the deficiency of the primary combination, and the rejection of claims 4, 6, 7, 14, 16, 17, 24, 26, and 27 cannot be sustained.

ORDER

The decision of the Examiner rejecting claims 1 through 4, 6 through 14, 16 through 24, and 26 through 31 under 35 U.S.C. § 103 is reversed.

REVERSED

Anita Pellman Gross

ANITA PELLMAN GROSS
Administrative Patent Judge

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APG/vsh

Owens, *Administrative Patent Judge*, concurring.

Ramsey stores an electronic image document using a device that can be an analog WORM optical laser disk recorder (col. 30, ll. 22-24). Ramsey writes image document volume and frame numbers, accession numbers, indexes or addresses into a separate database (84) and, in response to search queries, uses that database as a lookup table to retrieve the image documents (col. 22, ll. 8-17; col. 26, ll. 32-47; col. 30, l. 55 - col. 31, l. 19).

The Appellants argue that Ramsey does not disclose generating data that identifies data stored on the WORM storage device that satisfies the search query (Reply Br. 4-5). All of the Appellants' independent claims (1, 12 and 22) include that limitation.

During patent prosecution, claims are to be given their broadest reasonable interpretation consistent with the Specification, as the claim language would have been read by one of ordinary skill in the art in view of the Specification. *See In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); *In re Sneed*, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983).

The Appellants' Specification states, regarding reporting the search query results:

> The reporting may be performed in a variety of ways, depending upon the requirements of a particular application, and the invention is not limited to any particular approach. For example, data storage apparatus 102 may generate and send to users 302, 304 emails that specify particular electronic document[s] that

> satisfy the search query. As another example, data storage apparatus 102 may retrieve and provide to users 302, 304 copies of the electronic documents that satisfy the search queries. [p. 12, l. 21 – p. 13, l. 2]

The disclosures that the invention is not limited to any particular reporting approach and that the reporting can be by either specifying particular electronic documents or retrieving and providing copies of the documents to users indicates that the broadest reasonable interpretation of the Appellants' claim language "generate data that identifies the data stored on the WORM storage device", in view of the Appellants' Specification, may include either or both of 1) specifying a particular electronic document, and 2) retrieving the document and providing a copy of it to a user. If that claim interpretation is correct, then that claim requirement is met by Ramsey's retrieving the document from the WORM storage device using the lookup table and transmitting the document to the user (col. 26, ll. 32-54; col. 30, ll. 22-25).

The Examiner's rejection is based upon a more narrow claim interpretation that excludes Ramsey's document retrieval and transmission to the user (Answer 4). For a disclosure of generating data that identifies data stored on a WORM storage device the Examiner relies upon pages 18, 19 and 21 of Thiel, but the examiner does not point out where such a disclosure appears on those pages. *See id.* Thiel discloses:

> The complete WORM document storage and retrieval system normally consists of a scanner to convert the image from paper to an electronic image, a laser printer, one or more WORM disks for storage, software for indexing and retrieval and, of course, a computer to manage the entire process. [p. 18]
>
> * * *
>
> Since the system captures paper-based information in raster bitmapped form, an indexing and retrieval database was required. This database, which was customized for each ship, contains descriptive information about each document (a surrogate of the document). It is this database that is searched to locate and retrieve a scanned document from optical disk. [p. 21]

Thus, like Ramsey, Thiel uses an indexing and retrieval database to retrieve documents stored on a WORM device. Therefore, if the Appellants' claims are interpreted narrowly such that Ramsey's indexing and retrieval does not generate data that identifies data stored on a WORM storage device, then Thiel's indexing and retrieval does not do so either.

The dissent argues that in view of the Appellants' disclosure that the reporting can be by providing copies of the documents to users (Specification 13: 1-2), the broadest reasonable interpretation of the Appellants' claim language "generate data that identifies data" includes generating data such as a title that is part of the document. If providing a copy of the document stored on a WORM device is generating data that identifies data stored on a WORM device, then providing the entire document also meets that claim requirement. The question is: Does the invention as claimed encompass the Appellants' disclosed provision of

a copy of the document, or is it limited to the other of the Appellants' disclosed reporting methods, i.e., specifying particular electronic documents that satisfy the search query (Specification 12: 24)? That reporting method appears to be like those of search engines such as Google and Yahoo whose search results identify the documents that satisfy a search query but do not initially provide the documents themselves.

The dissent correctly points out that Ramsey's index is separate from the bitmap of the image. The dissent argues that Ramsey, in order to retrieve the stored image data, must "process the query and obtain an index that matches the search request". If "obtain" means to determine which index matches the search query terms, then in order for that retrieval to meet the Appellants' "generate data that identifies data" claim requirement, the process of matching an index and search query terms must be considered to generate data. The only data Ramsey (col. 26, 11. 32-47) and Thiel (p. 21) disclose as being generated is the document itself. If "generate data that identifies data" differs from generating the document itself, then Ramsey and Thiel do not disclose that claim requirement.

Regarding Thiel the dissent refers to "the index generated as a match to the search query", "the index generated from processing the search query", and "the index generated from among all the indexes in response to a search query". If the dissent's term "generated" refers to locating the index and, from it, determining the location of the corresponding document, without displaying the document, it has not been established on the record that doing so reasonably can be considered to generate data as that term is

most broadly construed in view of the Appellants' Specification. If the dissent's term "generated" means "created", that is not disclosed by Thiel.

Thus, the record indicates that the Examiner has not established a prima facie case of obviousness of the Appellants' claimed invention. Accordingly, I concur in the decision to reverse the Examiner's rejections.

Upon return of the application to the Examiner, the Examiner and the Appellants should address on the record whether the Appellants' claim limitation "generate data that identifies data" excludes the retrieving and providing of a document to a user disclosed in the Appellants' Specification (p. 13, l. 1). If not, then the Examiner should consider rejecting the claims based upon the broader interpretation of "generate data that identifies data" that includes retrieving and providing a document to a user. The Examiner and the Appellants also should address on the record whether locating an index and, from it, determining the location of the corresponding document, without displaying the document, reasonably can be considered to generate data as that term is most broadly construed in view of the Appellants' Specification.

Terry J. Owens

TERRY J. OWENS
Administrative Patent Judge

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LEVY, *Administrative Patent Judge*, Dissenting:

I respectfully dissent from my colleagues for the reasons which follow.

ISSUES

The first issue is whether the Examiner erred in holding that the combined teachings and suggestions of Ramsey and Thiel would have suggested to an artisan the language of claims 1-3, 8-13, 18-23, and 28-31. The issue turns on whether the teachings and suggestions of Ramsey and Thiel would have suggested the language "in response to processing the search query against the digital data stored on the WORM storage device, generate data that which identifies data stored on the WORM storage device that satisfies the search query" as recited in independent claim 1, and is similarly recited in independent claims 12 and 22.

The second issue is whether the Examiner erred in holding that the combined teachings and suggestions of Ramsey, Thiel, and Kern would have suggested the language of claims 4, 6, 7, 14, 16, 17, 24, 26, and 27. This issue turns on whether Kern would have suggested the language "wherein the data processor is further configured to generate meta data that describes one or more attributes of the data stored to the WORM storage device" as recited in claim 4. Appellants assert (Br. 8) that "*Kern* does not teach or suggest a data storage apparatus having a data processor configured to 'in response to processing the search query against the digital data stored on the WORM storage device, generate data that identifies data stored on the WORM storage device that satisfies the search query,' as is required by [c]laims 4, 6[,] and 7."

FINDINGS OF FACT

Based upon a preponderance of evidence, I make the following findings of fact:

1. Appellants invented a method and apparatus for automatically storing and managing data. (Spec. 1).
2. A data processor receives digital data from an interface included as part of a data storage apparatus and causes the digital data to be stored to a write-once-read-many (WORM) storage device. The data processor may be configured to generate index data and metadata. The data processor may process one or more queries against the index data and metadata (Spec. 3).
3. The data on the WORM storage device may be automatically indexed and search queries may be processed against the index to locate digital data stored on the WORM storage device. (Spec. 5).
4. Any type of indexing may be used and the invention is not limited to any particular type of indexing. (Spec. 7).
5. Data storage apparatus 102 is configured to generate metadata that describes one or more attributes of the data stored on WORM storage device 104. (Spec. 8).
6. Examples of meta data include, without limitation, size information, storage time information, storage location, format information and encoding, encryption or compression information. (*Id.*).

7. According to one embodiment of the invention, data storage apparatus 102 is configured to process queries against the indexes and meta data and generate data that indicates the results of processing the queries. (*Id.*).
8. As an example, a user submits a query for information relating to a patients' name. The data generated by the data processor 110 may identify documents containing the patient's name. The data that identifies the data that satisfies the queries is then provided to the user. (Spec. 9).
9. In providing an example of the operation of the device (Spec. 11-12) it is disclosed that the invention is not limited to any particular types of indexes or metadata.
10. The reporting may be performed in a variety of ways. For example, data storage apparatus 102 may generate and send to users 302 emails 304 that specify particular documents that satisfy the search query. As another example, data storage apparatus 102 may retrieve and provide to users copies of documents that satisfy the search query. (Spec. 12-13).
11. Ramsay is directed to interactive document processing incorporating hybrid (digital and analog) signal processing for the transmission, storage, and retrieval of documents. (Ramsay, col. 1, ll. 8-11).
12. The storage and retrieval of electronic images at high rates and large volumes requires indexing and selective acquisition of stored images on a medium such as a laser or optical disc. (Ramsay, col. 16, l. 64 through col. 17, l. 1).

13. An intervening digital memory buffer is utilized to construct a bitmap of the image. (Ramsay, col. 22, ll. 65-67).
14. In normal operation, images from a source document will be captured and stored on mass storage device 34. A volume and frame number for each image will be to a database in mainframe 16. An operator at a computer 14 on network 12 will issue a retrieval command for a particular document image, and the mainframe 16 will access the data base to determine the correct volume and frame number for the image. (Ramsay, col. 26, ll. 32-41).
15. Alternatively, an image may be retrieved from the mass storage device, reconstituted in the electronic image server 30, and transmitted to the requesting computer. (Ramsay, col. 26, ll. 50-54).
16. Since each document is stored on the storage device in the form of one or more frames, a database is utilized to record an accession number, index, or address for the initial frame and size (or for each of the separate frames) associated with a specific document to permit cataloging and selective retrieval of any document stored on that medium. (Ramsay, col. 30, ll. 55-62).
17. Thiel discloses that "WORM optical systems are [sic, provide the] best storage of documents, files ... that must be manages in image or raster bitmapped form." (Thiel, p. 18).
18. The complete WORM document storage and retrieval system normally consists of a scanner to convert the image from paper to an electronic image, a laser printer, one or more WORM disks for storage, software for indexing an retrieval and, of course, a computer to manage the entire process. (*Id.*).

19. The images can be recorded, stored, transmitted and printed, but cannot be directly included in a word processing file except as a graphic image (*id.*).
20. Since the system captures paper-based information in raster bitmapped form, an indexing and retrieval database was required. This database contains descriptive information about each document (a surrogate for the document). It is this database that is searched to locate and retrieve a scanned document from the optical disk. (Thiel 21).

PRINCIPLES OF LAW

Before addressing the Examiner's rejections based upon prior art, it is an essential prerequisite that the claimed subject matter be fully understood. Analysis of whether a claim is patentable over the prior art under 35 U.S.C. ' 103 begins with a determination of the scope of the claim. The properly interpreted claim must then be compared with the prior art. Claim interpretation must begin with the language of the claim itself. *See Smithkline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 882, 8 USPQ2d 1468, 1472 (Fed. Cir. 1988).

What we are dealing with in this case is the construction of the limitations recited in the appealed claims. As stated by the court in *In re Hiniker Co.*, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998) "[t]he name of the game is the claim." Claims will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not to be read into the claims. *In re Etter*, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985).

ANALYSIS (FIRST ISSUE)

Although Appellants describe generating data which identifies data (See original claim 4), from the disclosure of Appellants, I find no specific definition for the phrase "generate data that identifies data" as recited in the independent claims. Accordingly, this language is to be given the broadest reasonable interpretation consistent with the Specification.

From the description in the example operation that reporting may be performed by generating and sending to a user emails that specify the document that satisfies the search query or providing the document to the user, I find that the broadest reasonable interpretation of the phrase "data which identifies data" can either be an indicator of the document which is separate from the document or data which is part of the document such as the title of the document. Thus, I find that the claim, as broadly drafted, can be met by data which identifies the document but is separate from the document, as well as the data identifying the document that is part of the document, such as a title of the document. Accordingly, I do not agree with my colleagues holding (Decision 4) that "we interpret the phrase as referring to data separate from the stored data itself" as I find the majority's holding to be unsupported by the evidence in the record.

From the disclosure of Ramsay, we find that the document retrieval system stores the images as bitmaps. From the disclosure of recording an index number for the initial frame, I note that the reference does not state that the index is stored in the initial frame, but rather for the initial frame, which provides an indication of where the first frame and the succeeding frames are located in the storage medium.

Because the image is stored as a bitmap, and an index is provided for the first frame, I find that the index is separate from the bitmapped image, but is data that identifies the bit mapped image. With respect to my colleague's finding (Decision 4) that "Ramsay suggests recording identifying data for the stored data, but retrieving only the stored data itself," I note that while Ramsay does in fact retrieve the stored image (data), in order to do so, Ramsay must process the query and obtain an index that matches the search request in order to retrieve the image. To the extent that my colleague's finding might be construed to imply that the retrieved image includes the image, I must respectfully disagree, since the index is for identifying the image.

From the disclosure of Thiel of bitmapping the images in memory, and the requirement to have an index to identify a stored document, I find that to retrieve a stored, bitmapped document, a user of the system will enter a search query that is searched against the information stored in the index and retrieval database. When a match occurs between the search query and an index from among all of the index listings in the index and retrieval database, the index generated as a match to the search query constitutes data that identifies the data stored in the memory. However, the index is not part of the bitmapped image itself, but rather an identifier of the stored image.

From the claim construction, *supra*, and the disclosure of Ramsay of having an indexing system that records an index for the initial frame representing the image, I find that Ramsey describes generating data, i.e., an index that matches the search query, and that the generated data (index) identifies the stored, bitmapped image.

In any event, from the Examiner's statement (Answer 4) that "Ramsay does not explicitly teach process[ing] a search query against the digital data stored on the WORM storage device, and in response to processing the query, ... generate data that identifies data stored on the WORM storage device that satisfies the search query," I find that assuming *arguendo* that Ramsay does not explicitly teach generating data the identifies the data, that this is taught and suggested by Thiel, based upon Thiel's description that indexes are required for storing and retrieving bitmapped images, and that the indexing and retrieval database contains descriptive information about each stored document, which is a surrogate for the document. Note that irrespective of how the claim is interpreted, the teachings and suggestions of Ramsay and Thiel would have suggested that the index generated from processing the search query is data that identifies the stored data that is being retrieved. Moreover, even if the index generated from among all the indexes in response to a search query, was somehow considered to be a part of the bitmapped image, the claim would still be met by the prior art because the claim as broadly drafted, is met by retrieval of a document including an index or a title of a document.

From all of the above, I conclude that Appellants have failed to establish error on the part of the Examiner in rejecting claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Ramsay in view of Thiel. As Appellants have not provided any specific arguments as to the other claims in the group, I would have sustained the rejection of claims 2-3, 8-13, 18-23, and 28-31 as well.

ANALYSIS (SECOND ISSUE)

Turning to the rejection of claims 4, 6, 7, 14, 16, 17, 24, 26, and 27 under 35 U.S.C. § 103(a) as being unpatentable over Ramsay in view of Thiel and Kern, I note at the outset that claims 4, 6, and 7 have been argued together and that no specific arguments have been provided for any of the other claims of the group.

At the outset, I note that claim 4, unlike claims 6 and 7, requires metadata. As found in fact 6, Appellants' Specification provides an example of metadata as data describing size information or storage location. From the description of Ramsay that the index identifies the initial frame and size (fact 18) I find that Ramsay meets the claimed metadata. In addition, from the description of Thiel that the index contains descriptive information about each document (a surrogate of the document) I find that the claimed metadata is also met by Thiel since the Specification (page 8) also states that the invention is not limited to any particular type of metadata. Moreover, I would additionally sustain the rejection of claims 4, 6, 7, 14, 16, 17, 24, 26, and 27 because for the reason set forth, *supra*, with respect to the rejection of claim 1, that the teachings and suggestions of Ramsay and Thiel would have suggested to an artisan generating data identifying data stored on the storage device that satisfies the search query. Moreover, for the reasons advanced by the Examiner (Answer 6) that Kern's description of the data processor being configured to generate metadata in a data storage system, would have suggested to an artisan the use of meta data that describes one or more attributes of the data stored to the WORM storage device. From all of the above, I conclude that the combined teachings of Ramsay, Thiel, and

Kern would have suggested the language of claims 4, 6, 7, 14, 16, 17, 24, 26, and 27.

From all of the above, I would have sustained the rejections of the Examiner, as amplified by my comments, *supra*

STUART S. LEVY
Administrative Patent Judge

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